

Claims

1. Adjusting device (10) for beds, mattresses, armchairs and the like, consisting of support elements (12) extending at an angle to the adjusting direction (A), particularly, on both sides, jointly spanning a support plane (12A) and at least one drive device (24) for modifying the inclination of the support plane with at least one pivotable raising lever (14), characterized in that said at least one pivotable raising lever (14) is provided with several bar members (16A-16G), separately pivotable differently by means of the pivotable raising lever.

2. Adjusting device (10) for beds, mattresses, armchairs and the like, consisting of bar members (16) extending at an angle to the adjusting direction (A), particularly, on both sides, jointly spanning a support plane (12A), with at least one drive device (24) for modifying the inclination of the support plane, in which the bar members form a link chain, characterized in that bar members (16A,16B,16C,16D,16E,16F,16G) jointly house, essentially completely, an inherently rigid, pivotable (rigid) raising lever (14) serving for mutual adjustment of the bar members.

3. Adjustable support device for mattresses, or cushions, beds, armchairs and the like, consisting of pivotable bars with support elements (12) extending between the bars, spanning a support plane (12A), characterized in that the pivotable bars are each formed of at least one inherently rigid raising lever (14), and in that the raising lever carries a link chain of support element bearing members (bar members) pivotable relative to one another.

4. Adjusting device according to Claim 1 or 3, characterized in that the pivotable bar members form a link chain.

5. Adjusting device according to one of Claims 1-4, characterized in that the adjustable bar members are longitudinally and transversely displaceable relative to and by means of the pivotable raising lever (14).

6. Adjusting device according to one of Claims 1-5, characterized in that at least one of the pivotable bar members comprises at least one longitudinal and transverse guide (18A).

7. Adjusting device according to one of Claims 1-6, characterized in that the bar members are pivotable in differing rotational senses relative to one another by virtue of the pivoting of the pivotable raising lever.

8. Adjusting device according to one of Claims 1-7, characterized in that, in order to pivot at least one, in particular, all, bar member(s), a sliding link operative between the latter and the pivotable raising lever is provided.

9. Adjusting device according to one of Claims 1-8, characterized in that at least one of the bar members or bar member pairs is an integral component of a device for differing pivoting of the bar members relative to raising lever (14).

10. Adjusting device according to one of Claims 1-9, characterized in that the adjustable bar members are like a casing.

11. Adjusting device according to Claim 10, characterized in that the adjustable casing-like bar members form the casing adjustment means in one piece.

12. Adjusting device according to one of Claims 1-11, characterized in that adjustable bar members are divided in two.

13. Adjusting device according to one of Claims 1-12, characterized in that pivotable adjusting lever (14) is guided inside bar members (16A-16G).

14. Adjusting device according to one of Claims 1-13, characterized by a forced guidance between pivotable adjusting lever (14) and at least one of the bar members.

15. Adjusting device according to one of Claims 1-14, characterized in that adjusting lever (14,14') is constructed as a cantilever and is pivotably seated on a middle or base part of the adjusting device, such as on a bar member (16E), a slat grating (32) and/or on a frame (30).

16. Adjusting device according to one of Claims 1-15, characterized in that a jamming protection means (26) is provided between at least two adjacent bar members.

17. Adjusting device for beds, mattresses, armchairs or the like, consisting of bar members (16) extending at either side at an angle to the adjusting direction (A), jointly spanning a support plane (12A) formed of support elements (12), with at least one drive device for modifying the inclination of the support device, in which the bar members form a link chain, in particular, according to one of Claims 1-16, characterized in that one of the bar members comprises a driven extensible bracing element (20) for bracing the bar member against a base surface.

18. Adjusting device according to Claim 17, characterized in that bar member (16G) comprising bracing element (20) comprises a rocker (50) that transmits the drive force for the extension/retraction motion.

19. Adjusting device according to Claim 17 or 18, characterized in that a driven raising lever (14') raises and/or lowers one end of bar member (16F) comprising extensible bracing element (20).

20. Adjusting device according to Claim 18, characterized in that raising lever (14') forcibly pivots rocker (50) during the pivoting of raising lever (14').

21. Adjusting device according to one of Claims 18-20, characterized in that rocker (50) is arranged inside bar member (16G) comprising extensible bracing element (20) or is arranged thereon.

22. Adjusting device according to one of Claims 17-21, characterized in that extensible bracing element (20) is constructed as a knee lever with rigid legs (20A,20B), the knee lever being pivotably seated relative to bar member (16G) housing it about a knee lever joint (20C).

23. Adjusting device for beds, mattresses, armchairs or the like, consisting of bar members (16) extending at either side at an angle to the adjusting direction (A), jointly spanning a support plane (12A), with several drive devices for modifying the inclination of the support device, in which the bar members form a link chain, consisting at least of a head part (32A), a foot part (32B) and a middle part (32C), in particular, according to one of Claims 1-22, characterized in that each of the two bar members (16E) defining middle part (32C) houses as drive unit a pair of electric motors (60A,60B) such that output shafts (62A,62B) extend essentially parallel to respective bar member (16E) and are arranged in a plane extending essentially through bar members (16E).

24. Adjusting device according to Claim 23, characterized in that bar members (16E) housing the two adjacent electric motors (60A,60B) consist of casings exceeding the width of the rest of the bar.

25. Adjusting device according to Claim 23 or 24, characterized in that the two first electric motors (60A) of the bar members (16E) on either side and/or the two second electric motors (60B) of the two opposing bar members (16E) are motively connected by synchronization means, in particular, torsion tubes (14A and 14A', respectively).

26. Adjusting device according to one of Claims 23-25, characterized in that pivoting means, in particular, raising levers (14 and/or 14') of bar members (16) are arranged parallel, offset from the output shafts (62A and/or 62B) of electric motors (60A and/or 60B).

27. Adjusting device according to one of Claims 23-26, characterized in that two raising levers (14 and 14', respectively) associated with the bars of the head part or the foot part are jointly pivotable by means of a torsion tube (14A and 16A'[sic; 14A'], respectively) and are each connected at their terminal areas on the torsion tube side to drive transfer means of electric motors (60A or 60B) to provide a pivot drive.